

## LINEAR LOW NOISE TRANSCONDUCTANCE CELL

### ABSTRACT OF THE DISCLOSURE

A low noise transconductance cell includes a resistor and a differential circuit pair having two equivalent half-circuits. Each half-circuit includes a feedback loop coupled to the resistor. The feedback loop includes an input transistor coupled to an inverting gain stage. The inverting gain stage is coupled to an output transistor which in turn is coupled to the input transistor and the resistor. In a low noise transconductance cell, a bias current source is coupled to the center of series connected resistors. In a high swing transconductance cell, a first bias current source is coupled to the left terminal of a resistance stage and a second bias current source is coupled to the right terminal of the resistance stage. The resistance stage can include a single resistor or a plurality of resistors.